

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT H. WOLLENBERG
and THOMAS J. BALK

Appeal No. 2007-0510
Application No. 10/699,507¹

Decided: 20 September 2007

Before FRED E. McKELVEY, *Senior Administrative Patent Judge*, and
ADRIENE LEPIANE HANLON and MICHAEL P. TIERNEY,
Administrative Patent Judges.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

1 A. STATEMENT OF CASE

2 Appellants appeal under 35 U.S.C. § 134 from a final rejection of
3 claims 1-45. We have jurisdiction under 35 U.S.C. § 6(b).

4 Appellants' invention is directed to a high throughput screening
5 method and system for measuring the storage stability of lubricating oil

¹ Application 10/699,507 was filed on October 31, 2003. The real party in interest is Chevron Oronite Company LLC.

1 compositions under program control. Claims 1, 20, and 39 are the only
2 independent claims pending in the application. They read as follows:

3 1. A high throughput method for screening
4 lubricating oil additive composition samples, under program
5 control, comprising

6 (a) providing a plurality of different lubricating oil
7 additive composition samples comprising at least one
8 lubricating oil additive, each sample being in a respective one
9 of a plurality of test receptacles;

10 (b) maintaining each sample at a predetermined
11 temperature for a predetermined time;

12 (c) measuring the storage stability of each sample to
13 provide storage stability data for each sample; and,

14 (d) outputting the results of step (c).
15

16 20. A high throughput method for screening
17 lubricating oil composition samples, under program control,
18 comprising:

19 (a) providing a plurality of different lubricating oil
20 composition samples comprising (i) a major amount of at least
21 one base oil of lubricating viscosity and (ii) a minor amount of
22 at least one lubricating oil additive, each sample being in a
23 respective one of a plurality of test receptacles;

24 (b) maintaining each sample at a predetermined
25 temperature for a predetermined time;

26 (c) measuring the storage stability of each sample to
27 provide storage stability data for each sample; and,

28 (d) outputting the results of step (c).
29

30 39. A system for screening lubricant performance,
31 under program control, comprising:

32 a) a plurality of test receptacles, each containing a
33 different lubricating oil composition sample comprising (a) a
34 major amount of at least one base oil of lubricating viscosity
35 and (b) a minor amount of at least one lubricating oil additive;

36 b) receptacle moving means for individually
37 positioning said test receptacles in a testing station for
38 measurement of storage stability in the respective sample;

1 c) means for measuring the storage stability in the
2 sample moved to the testing station to obtain storage stability
3 data associated with said sample and for transferring said
4 storage stability data to a computer controller, wherein said
5 computer controller is operatively connected to the means for
6 individually moving the test receptacles.

7
8 The Examiner relies on the following evidence in rejecting the claims
9 on appeal:

10 Kolosov et al. ("Kolosov")	2004/0123650 A1	Jul. 1, 2004
11 O'Rear	2003/0100453 A1	May 29, 2003
12 Tolvanen et al. ("Tolvanen")	US 5,715,046	Feb. 3, 1998
13 Garr et al. ("Garr")	US 5,993,662	Nov. 30, 1999
14 Smrcka et al. ("Smrcka")	EP 1 233 361 A1	Aug. 21, 2002

15
16 B. ISSUES

17 Have the Appellants sustained their burden of showing that the
18 Examiner erred in rejecting claims 39-42 under 35 U.S.C. § 102(e) as being
19 anticipated by Kolosov?

20 Have the Appellants sustained their burden of showing that the
21 Examiner erred in rejecting claims 1-9, 18-29, 38, and 43 under 35 U.S.C.
22 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
23 and Tolvanen?

24 Have the Appellants sustained their burden of showing that the
25 Examiner erred in rejecting claims 10-13, 30-33, 44, and 45 under 35 U.S.C.
26 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
27 Tolvanen, and Garr?

1 Have the Appellants sustained their burden of showing that the
2 Examiner erred in rejecting claims 14-17 and 34-37 under 35 U.S.C.
3 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
4 Tolvanen, and Smrcka?

5 Have the Appellants sustained their burden of showing that the
6 Examiner erred in provisionally rejecting claims 1-3, 6, 7, 9, 11, 12, 14, 15,
7 19, 20, 22, 23, 26, 27, 29, 31, 32, 34, 35, and 38-45 under the judicially
8 created doctrine of obviousness-type double patenting as being unpatentable
9 over claims 1, 3-9, 15-19, and 24-30 of copending Application 10/779,422?

10 Have the Appellants sustained their burden of showing that the
11 Examiner erred in provisionally rejecting claims 1, 2, 13-18, 20-22, and 33-
12 38 under the judicially created doctrine of obviousness-type double
13 patenting as being unpatentable over claims 20 and 22-30 of copending
14 Application 10/699,529?

15 Have the Appellants sustained their burden of showing that the
16 Examiner erred in provisionally rejecting claims 1, 2, 13-17, 20, 22, 34-37,
17 39-42, 44, and 45 under the judicially created doctrine of obviousness-type
18 double patenting as being unpatentable over claims 1, 3, 10-18, 22, and 23 of
19 copending Application 10/699,508?

20 Have the Appellants sustained their burden of showing that the
21 Examiner erred in provisionally rejecting claims 1, 2, 20, 22, 39, 41, and 44
22 under the judicially created doctrine of obviousness-type double patenting as
23 being unpatentable over claims 1, 13, 19-22, and 33-35 of copending
24 Application 10/699,509?

1 C. FINDINGS OF FACT

2 The following findings of fact are believed to be supported by a
3 preponderance of the evidence. Additional findings of fact as necessary
4 appear in the Analysis portion of the opinion.

5 1. Appellants' Specification

6 The Appellants' invention relates generally to methods for high
7 throughput screening of lubricating oil additives and lubricating oil
8 compositions containing such additives. Specification at 1:5-6.

9 Appellants define "high throughput" as meaning that a relatively large
10 number of different lubricating oil additive compositions or lubricating oil
11 compositions can be rapidly prepared and analyzed. Specification at 5:19-
12 6:1.

13 The compositions can be analyzed for storage stability such as, e.g.,
14 sedimentation data, color data, and viscosity data. Specification at 20:13-16.

15 One test for measuring storage stability includes determining how
16 much light can pass through or be scattered by a sample of the lubricating oil
17 additive composition or lubricating oil composition. Specification at 22:1-3.

18 Alternatively, a viscosity test may be used to determine storage
19 stability. Specification at 24:20-21.

20 The base oil of the lubricating oil compositions of the invention may
21 be any natural or synthetic lubricating base oil. Specification at 11:16-18.

22 The lubricating oil additive compositions of the invention include at
23 least one lubricating oil additive that can be any presently known or later-
24 discovered additive used in formulating lubricating oil compositions.
25 Specification at 6:18-21.

1 The Appellants define “program control” as meaning that the
2 equipment used to provide the plurality of lubricating oil additive
3 compositions or lubricating oil compositions is automated and controlled by
4 a microprocessor or other computer controlled device. Specification at 6:13-
5 17.

6 2. Kolosoov

7 The invention disclosed in Kolosov relates to high throughput screens
8 for evaluating the rheological properties of a material. Kolosov, para.
9 [0002].

10 The invention may be used to screen or test flowable materials such as
11 lubricants. Kolosov, para. [0042].

12 The invention is said to have particular utility in connection with
13 screening a number of different material forms including oils. Kolosov,
14 para. [0043].

15 The invention can be used to analyze the resulting properties of a
16 particular flowable sample material or the relative or comparative effects
17 that an additive has upon a particular flowable sample material, e.g., the
18 effect of a detergent, a flow modifier, or the like. Kolosov, para. [0043].

19 Properties that may be measured include viscosity, density, thermal
20 degradation, aging characteristics, relative or absolute component
21 concentration, chemical composition, presence and amounts of other low-
22 molecular weight impurities in samples, and agglomeration or assemblage of
23 molecules. Kolosov, para. [0065].

24 A plurality of samples may be employed in the disclosed screening
25 method. Kolosov, para. [0056].

1 The plurality of samples can be a library of samples. Kolosov, para.
2 [0057].

3 The library of samples can comprise product mixtures that are varied
4 with respect to additives. Kolosov, para. [0061].

5 In one embodiment of the invention, an array of materials is screened
6 for viscosity. Kolosov, para. [0029].

7 It is contemplated that a parameter, e.g., a parameter that relates to a
8 rheological property, of a sample is measured at a first time followed by
9 measuring the parameter at a second time and so on during a predetermined
10 period of time. Kolosov, para. [0096].

11 Figure 1 illustrates a system 10 for measuring or determining material
12 properties, such as viscosity, of a combinatorial library of material samples.
13 Kolosov, para. [0067].

14 The system 10 includes a stimulus generator 12 that applies power to
15 a probe 14 for applying a stimulus to one or more samples in an array or
16 library of samples. Kolosov, para. [0067].

17 The system 10 also includes a sensor or transducer 20 for monitoring
18 a response of the one or more samples to the stimulus. Kolosov, para.
19 [0067].

20 Typically, the transducer 20, the stimulus generator 12, or both are in
21 communication with a computer sub-system 23, such as a microprocessor or
22 other like computer for manipulating data. For example, the computer sub-
23 system 23 may be employed to receive and store data such as responses of
24 samples, material properties of samples, or the like. Kolosov, para. [0068].

1 The samples may be physically separated from each other, such as in
2 different regions of a substrate or in different sample containers. Kolosov,
3 para. [0056].

4 Kolosov contemplates that the substrate and sample containers can be
5 used with automated sampling and automated substrate-handling devices.
6 Kolosov, para. [0059].

7 In one embodiment, the samples may be moved relative to the probe
8 14. Kolosov, para. [0073].

9 The samples may be moved by an automated system, e.g., a robot
10 arm. Kolosov, para. [0073].

11 A suitable automated system may be a robotic system that has
12 multiple axis range of motion in the orthogonal x, y, z coordinate axes
13 system. Typically, such an automated system would be part of or in
14 communication with the computer sub-system 23. Kolosov, para. [0074].

15 3. O'Rear

16 O'Rear discloses a blend of lube base oils which provide improved
17 oxidation stability, both with and without additives. O'Rear, para. [0001].

18 Finished lubricants used for automobiles, diesel engines, and
19 industrial applications consist of two general components: a lube base oil
20 and additives. O'Rear, para. [0002].

21 The lube base oil disclosed in O'Rear may be used in a finished
22 lubricant composition and, thus, may contain one or more additives,
23 depending on the particular use of the oil. O'Rear, para. [0046].

24 O'Rear discloses that the additives are used in amounts which are
25 known to those of skill in the art, preferably about 0.1 to about 40 weight
26 percent of the final lube oil product. O'Rear, para. [0046].

1 O'Rear also discloses that a convenient way to measure the stability
2 of lube base oils is using the Oxidator Test. There are two forms of the test:
3 Oxidator BN and Oxidator A. O'Rear, para. [0031].

4 The Oxidator A test is a measure of oxidation stability during
5 shipping and storage. O'Rear, para. [0031].

6 Another method for studying the stability of lube base oils during
7 storage is to monitor floc and sediment formation when stored in an oven
8 while exposed to air. O'Rear, para. [0034].

9 According to the method disclosed in O'Rear, 50 grams of lube base
10 oil is placed in a loosely capped 7 ounce bottle and placed in an oven at
11 150°F. The sample is inspected periodically for an increase in color or
12 formation of floc or sediments. The test is run for 90 days. O'Rear, para.
13 [0034].

14 4. Tolvanen

15 The invention disclosed in Tolvanen relates to a method and device
16 for determining the stability or storability of oil. Tolvanen at 1:6-7.

17 The invention is based on the finding that the stability of oils can be
18 determined promptly and reliably by measuring the intensity of light
19 scattering from the oil surface. Tolvanen at 2:1-4.

20 The method may be used to measure the contents of substances
21 insoluble in heavy oil fractions derived from petroleum or in their mixtures.
22 Tolvanen at 3:17-19.

23 Figure 1 illustrates a measuring device 10. The device comprises a
24 light source 11, a sample vessel 12, and an indicator 14. Tolvanen at 2:54-
25 56.

1 According to the method disclosed in Tolvanen, light is directed onto
2 the oil product surface and onto the oil layer under the surface whereby the
3 intensity of light scattered from the oil product surface and from inside the
4 oil product will indicate the content of particles in the oil. Tolvanen at 3:20-
5 24.

6 An analyzer functioning with the method can be fully automated for
7 sampling and result computing. Tolvanen at 2:33-35.

8 5. Garr

9 Garr discloses a method for producing a large chemical library of
10 purified products from a chemical library of raw reaction products. Garr at
11 1:7-15.

12 In accordance with the invention, reaction tubes, each containing a
13 reaction product, are arranged in an array. Each reaction tube and product is
14 identified by a unique code, such as a bar code, which is optically readable.
15 Garr at 4:3-9.

16 The code is stored in the memory of a digital signal processor on a
17 database. Garr at 4:9-10.

18 The code is used to relate each pure chemical compound to the
19 original reaction product from which it is derived. Garr at 3:26-32.

20 6. Smrcka

21 Smrcka discloses a system and method for new product development,
22 especially for new or customized chemical products. Smrcka, para. [0004].

23 The method includes testing the product and storing details and results
24 of the testing in a computer readable database. Smrcka, para. [0011].

1 The database is available globally from any personal computer having
2 suitable client software installed and suitable network connectivity. Smrcka,
3 para. [0038].

4 D. PRINCIPLES OF LAW

5 “A claim is anticipated only if each and every element as set forth in
6 the claim is found, either expressly or inherently described, in a single prior
7 art reference.” *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631,
8 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

9 To establish inherency, the extrinsic evidence “must make clear that
10 the missing descriptive matter is necessarily present in the thing described in
11 the reference, and that it would be so recognized by persons of ordinary
12 skill.” *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20
13 USPQ2d 1746, 1749 (Fed. Cir. 1991). “Inherency, however, may not be
14 established by probabilities or possibilities. The mere fact that a certain
15 thing may result from a given set of circumstances is not sufficient.” *Id.* at
16 1269, 20 USPQ2d at 1749 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212
17 USPQ 323, 326 (CCPA 1981)).

18 Additionally, a claimed invention is not patentable if the subject
19 matter of the claimed invention would have been obvious to a person having
20 ordinary skill in the art. 35 U.S.C. § 103(a); *KSR Int’l Co. v. Teleflex Inc.*,
21 127 S. Ct. 1727, 82 USPQ2d 1385 (2007); *Graham v. John Deere Co.*, 383
22 U.S. 1 (1966).

23 Facts relevant to a determination of obviousness include (1) the scope
24 and content of the prior art, (2) any differences between the claimed
25 invention and the prior art, (3) the level of skill in the art, and (4) any

1 relevant objective evidence of obviousness or non-obviousness. *KSR*, 127 S.
2 Ct. at 1734, 82 USPQ2d at 1389, *Graham*, 383 U.S. at 17-18.

3 The question under 35 U.S.C. § 103 is not merely what the references
4 teach but what they would have suggested to one of ordinary skill in the art
5 at the time the invention was made. All disclosures of the prior art,
6 including unpreferred embodiments, must be considered. *In re Lamberti*,
7 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976).

8 One of ordinary skill in the art is presumed to have skills apart from
9 what the prior art references expressly disclose. *See In re Sovish*, 769 F.2d
10 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985). A person of ordinary skill is
11 also a person of ordinary creativity, not an automaton. *KSR*, 127 S. Ct. at
12 1742, 82 USPQ2d at 1397.

13 A rejection premised upon a proper combination of references cannot
14 be overcome by attacking the references individually. *In re Keller*, 642 F.2d
15 413, 426, 208 USPQ 871, 882 (CCPA 1981).

16 E. ANALYSIS

17 1. Claims 39-42

18 Claim 39 recites:

19 A system for screening lubricant performance, under
20 program control, comprising:

21 a) a plurality of test receptacles, each containing a different
22 lubricating oil composition sample comprising (a) a major
23 amount of at least one base oil of lubricating viscosity and (b) a
24 minor amount of at least one lubricating oil additive

25
26 The Examiner found that compounds analyzed by the system
27 disclosed in Kolosov can be lubricants having an additive therein. The
28 Examiner found that “[i]t is inherent that in a lubricant composition having

1 an additive therein that the base lubricant oil is present in a major amount
2 while the additive is present in a lesser minor amount.” Final Office Action
3 mailed November 4, 2005 at 12.

4 In the Answer, the Examiner further finds that an additive, by
5 definition, means any substance incorporated into a base material, usually in
6 a low concentration, to perform a specific function, i.e., a stabilizer, a
7 preservative, dispersing agent, antioxidant, etc. The Examiner cites *The*
8 *Condensed Chemical Dictionary* 20 (10th ed. 1981) for support. The
9 Examiner finds that one embodiment in Kolosov discloses a lubricant
10 containing an additive. Apparently combining the teachings of Kolosov and
11 the definition of “additive” in *The Condensed Chemical Dictionary*, the
12 Examiner finds that an additive would be incorporated into the lubricant of
13 Kolosov in a low concentration. Answer at 10-11.

14 The Appellants argue that lubricating oil compositions do not have to
15 contain a major amount of at least one base oil of lubricating viscosity and a
16 minor amount of at least one lubricating oil additive. The Appellants argue
17 that a lubricating oil composition can be a concentrate that contains a major
18 amount of a lubricating oil additive and a minor amount of base oil of
19 lubricating viscosity as a diluent for the concentrate.² Appeal Brief at 7.

20 The Examiner has not directed us to any disclosure in Kolosov that
21 expressly describes a lubricant comprising a minor amount of at least one
22 lubricating oil additive. As for inherency, the Examiner has not

² In the Reply Brief, the Appellants rely on *Chemistry and Technology of Lubricants* 88 (R.M. Mortier & S.T. Orszulik, eds., 2nd ed. 1997) (disclosing that certain dispersants are generally processed as 40 to 60% concentrates in base oil). Reply Brief at 2. A reply brief shall not include any new evidence. 37 C.F.R. § 41.41(a)(2) (2006).

1 demonstrated that the lubricants disclosed in Kolosov necessarily contain a
2 minor amount of an additive. The definition of “additive” relied on by the
3 Examiner merely establishes that an additive is **usually** incorporated into a
4 base material in a low concentration. This definition does not establish that
5 an additive is **necessarily** or inevitably present in a base material in a low
6 concentration.

7 For the reasons set forth above, Kolosov does not anticipate the
8 subject matter of claim 39.

9 Claims 40-42 depend from claim 39. Therefore, claims 40-42 fall
10 with claim 39. *See* 37 C.F.R. § 1.75(c) (2006) (“Claims in dependent form
11 shall be construed to include all the limitations of the claim incorporated by
12 reference into the dependent claim.”).

13 2. Claim 43

14 Claim 43 depends from claim 39 and recites that the testing station
15 includes a light source and a photocell aligned with the light source.

16 The Examiner finds that the high throughput system disclosed in
17 Kolosov can be used to screen flowable materials, such as lubricants and
18 oils. The Examiner finds that the system can be used to analyze the relative
19 or comparative effects that an additive has upon a particular flowable
20 material. The Examiner finds that the disclosed flowable materials can be
21 screened for various properties including viscosity, density, thermal
22 degradation, aging characteristics, chemical composition, and agglomeration
23 or sedimentation. Answer at 3-4.

24 The Examiner finds that Kolosov does not teach that the disclosed
25 lubricants can be screened for storage stability by optically measuring the
26 formation of sediment in each sample. However, the Examiner finds that

1 Tolvanen discloses a system that determines the stability of lubricating oil
2 compositions by measuring the intensity of light scattering from the oil
3 surface. Answer at 7.

4 The Appellants argue that Kolosov and Tolvanen do not disclose or
5 suggest a system for screening lubricating oil compositions comprising (a) a
6 major amount of at least one base oil of lubricating viscosity and (b) a minor
7 amount of at least one lubricating additive. The Appellants also argue that
8 Tolvanen does not disclose or suggest a testing station that includes a light
9 source and a photocell aligned with the light source for measuring storage
10 stability in a lubricating oil sample. Appeal Brief at 22-24.

11 Tolvanen discloses a device that determines the stability or storability
12 of oil by measuring the intensity of light scattering from the oil surface. The
13 measuring device comprises a light source 11, a sample vessel 12 containing
14 an oil sample, and an indicator 14. In operation, a light ray 16 is directed at
15 any angle from the light source 11 onto the surface of the oil in sample
16 vessel 12. Part of the arriving light ray 16 is scattered as a light ray 18 from
17 the oil surface and is detected by indicator 14 at any angle. Tolvanen, 2:52-
18 63; Figure 1. The Examiner finds that indicator 14 is a photocell and is
19 “aligned” with the light source 11. Answer at 14-15. An automated
20 analyzer for sampling and result comparing can also be employed.
21 Tolvanen, 2:33-37.

22 Significantly, the Appellants have failed to explain why the light
23 source 11 and indicator/photocell 14 are not “aligned” in the Tolvanen
24 device. Furthermore, it is of no moment that Tolvanen does not disclose that
25 the oil compositions tested comprise a major amount of a base oil of
26 lubricating viscosity and a minor amount of a lubricating additive. Based on

1 the record before us, it is reasonable to find that the lubricant compositions
2 disclosed in Kolosov include lubricant compositions containing an additive.
3 Kolosov does not expressly disclose that the lubricant compositions
4 comprise a major amount of at least one base oil of lubricating viscosity and
5 a minor amount of at least one lubricating oil additive. However, the record
6 before us establishes that one of ordinary skill in the art would have
7 understood “additive” to mean any substance incorporated into a base
8 material, usually in a low concentration. *See The Condensed Chemical*
9 *Dictionary* at 20; see also O’Rear, paras. [0002] and [0046]. We find that
10 one of ordinary skill in the art would have reasonably expected the lubricant
11 compositions in Kolosov, comprising a lubricant and an additive, to have a
12 major amount of a base oil and a minor amount of an additive.

13 The Appellants also argue that Tolvanen does not disclose or suggest
14 a system for screening oil samples by maintaining the sample at a
15 predetermined temperature for a predetermined time. Appeal Brief at 24.
16 The Appellants’ argument is not persuasive because claim 43 does not
17 require a sample to be maintained at a predetermined temperature for a
18 predetermined time. Compare claims 1 and 20.

19 Finally, the Appellants argue that the Examiner has failed to establish
20 that Tolvanen provides a “teaching, motivation, or suggestion” for
21 modifying Kolosov to arrive at the claimed invention. Appeal Brief at 26.

22 Kolosov discloses a high throughput system for measuring numerous
23 properties of lubricant compositions, including viscosity, thermal
24 degradation, aging characteristics, and agglomeration or assemblage of
25 molecules. We find that one of ordinary skill in the art would have found
26 these properties useful in determining the storage stability of lubricant

1 compositions. Tolvanen also discloses a system for measuring the storage
2 stability of oil samples. Based on the record before us, we find that it would
3 have been reasonable for one of ordinary skill in the art to employ the
4 system disclosed in Tolvanen as an alternative means for measuring the
5 storage stability of lubricant compositions in Kolosov. *In re Fout*, 675 F.2d
6 297, 301, 213 USPQ 532, 536 (CCPA 1982) (“Express suggestion to
7 substitute one equivalent for another need not be present to render such
8 substitution obvious.”).

9 For the reasons set forth above, it is reasonable to conclude that the
10 invention of claim 43 would have been obvious to one of ordinary skill in
11 the art in view of the combined teachings of at least Kolosov and Tolvanen.

12 3. Claims 1-9, 18, and 19

13 The Examiner finds that Kolosov does not teach that the disclosed
14 lubricants can be screened for storage stability by optically measuring
15 sediment formation in each sample. The Examiner finds that O’Rear and
16 Tolvanen optically measure the formation of sediment to determine the
17 storage stability of oils. Answer at 7.

18 Claim 1 is not limited to measuring storage stability by measuring the
19 formation of sediment. Therefore, it is not necessary to consider the
20 teachings of O’Rear and Tolvanen in connection with the step of measuring
21 storage stability recited in claim 1.

22 The Appellants argue that Kolosov does not disclose or suggest the
23 invention of claim 1. Specifically, the Appellants argue that Kolosov merely
24 discloses that the invention may be used to screen most any flowable
25 material, such as pharmaceuticals, coatings, cosmetics, adhesives, inks,

1 foods, crop agents, detergents, protective agents, **lubricants**, and the like.

2 Appeal Brief at 11.

3 Significantly, Kolosov discloses that the invention can be used to
4 screen lubricants. Kolosov, para. [0042]. Kolosov also discloses that the
5 invention can be used to analyze the relative or comparative effects that an
6 additive has upon a particular flowable material, e.g., the effect of a
7 detergent, a flow modifier, or the like. Kolosov, para. [0043].

8 Based on these teachings, we find that Kolosov would have
9 reasonably suggested to one of ordinary skill in the art that the disclosed
10 method is useful for testing lubricants containing an additive. For this
11 reason, it is reasonable to conclude that the method of claim 1 would have
12 been obvious to one of ordinary skill in the art in view of the teachings of
13 Kolosov.

14 4. Claims 20-29 and 38

15 The Examiner finds that Kolosov does not teach that the disclosed
16 lubricants can be screened for storage stability by optically measuring
17 sediment formation in each sample. The Examiner finds that O'Rear and
18 Tolvanen optically measure the formation of sediment to determine the
19 storage stability of oils. Answer at 7.

20 Claim 20 is not limited to measuring storage stability by measuring
21 the formation of sediment. Therefore, it is not necessary to consider the
22 teachings of O'Rear and Tolvanen in connection with the step of measuring
23 storage stability recited in claim 20.

24 The Appellants argue that Kolosov does not disclose or suggest the
25 invention of claim 20. Specifically, the Appellants argue that Kolosov does
26 not disclose or suggest a high throughput method for screening lubricating

1 oil compositions comprising measuring the storage stability of each sample
2 to provide storage stability data for each sample. The Appellants also argue
3 that Kolosov does not disclose or suggest the step of providing a plurality of
4 different lubricating oil composition samples comprising (i) a major amount
5 of at least one base oil of lubricating viscosity and (ii) a minor amount of at
6 least one lubricating oil additive, each sample being in a respective one of a
7 plurality of test receptacles. Brief at 16.

8 The Appellants' arguments are not persuasive. Kolosov discloses a
9 high throughput method for screening many flowable materials such as
10 lubricants. Kolosov, para. [0042]. Kolosov discloses that the high
11 throughput method can be used to analyze the resulting properties of a
12 particular flowable material or the relative or comparative effects that an
13 additive has upon a particular flowable material, e.g., the effect of a
14 detergent, a flow modifier, or the like. Kolosov, para. [0043]. Based on
15 these teachings, we find that Kolosov would have reasonably suggested a
16 high throughput method for testing lubricants containing an additive.

17 Kolosov does not expressly disclose that the lubricants comprise a
18 major amount of at least one base oil of lubricating viscosity and a minor
19 amount of at least one lubricating oil additive. However, the record before
20 us establishes that one of ordinary skill in the art would have understood
21 "additive" to mean any substance incorporated into a base material, usually
22 in a low concentration. See *The Condensed Chemical Dictionary* at 20; see
23 also O'Rear, paras. [0002] and [0046]. We find that one of ordinary skill in
24 the art would have reasonably expected the lubricant compositions in
25 Kolosov, comprising a lubricant and an additive, to have a major amount of
26 a base oil and a minor amount of an additive.

1 Finally, Kolosov discloses that the high throughput method can be
2 used to measure a number of properties, including viscosity, thermal
3 degradation, aging characteristics, and agglomeration or assemblage of
4 molecules. Kolosov, para. [0065]. We find that one of ordinary skill in the
5 art would have found these properties useful in determining the storage
6 stability of lubricant compositions.

7 For the reasons set forth above, it is reasonable to conclude that the
8 method of claim 20 would have been obvious to one of ordinary skill in the
9 art in view of the teachings of at least Kolosov.

10 5. Claims 10-13, 30-33, 44, and 45

11 Claim 10 depends from claim 1 and requires each sample to have
12 affixed thereto a bar code identifying the sample.

13 The Examiner finds that the containers holding lubricant samples in
14 Kolosov do not have a bar code attached thereto. The Examiner finds that
15 Garr teaches that it is common in a combinatorial library to identify
16 individual containers by a unique code, such as a bar code, which is optically
17 readable. The Examiner finds that the code can be stored in the memory of a
18 digital signal processor on a database. Final Office Action mailed
19 November 4, 2005 at 10; Answer at 8.

20 The Examiner concludes that the invention of claim 10 would have
21 been obvious to one of ordinary skill in the art in view of the combined
22 teachings of at least Kolosov and Garr. Final Office Action mailed
23 November 4, 2005 at 10; Answer at 8.

24 The Appellants do not challenge the Examiner's findings or the
25 Examiner's conclusion of obviousness as to claim 10 in the Appeal Brief.

1 Rather, the Appellants argue that Garr does not cure the deficiencies of
2 Kolosov, O'Rear, and Tolvanen as to claim 1. Appeal Brief at 27-29.

3 For the reasons set forth above, the teachings of Kolosov render
4 obvious the subject matter of claim 1. Therefore, there are no deficiencies
5 that Garr must cure.

6 6. Claims 14-17 and 34-37

7 Claim 14 depends from claim 1 and requires that the step of
8 outputting comprise storing the result of step (c) on a data carrier.

9 The Examiner finds that Smrcka teaches a method of testing a new
10 chemical product and storing the results in a data carrier such as a computer
11 readable medium. Final Office Action mailed November 4, 2005 at 11;
12 Answer at 9. We also find that Kolosov stores data such as responses of
13 samples, material properties of samples, or the like on a computer sub-
14 system 23. Kolosov, para. [0068].

15 The Examiner concludes that the invention of claim 14 would have
16 been obvious to one of ordinary skill in the art in view of the combined
17 teachings of at least Kolosov and Smrcka. Final Office Action mailed
18 November 4, 2005 at 11; Answer at 9.

19 The Appellants do not challenge the Examiner's findings or the
20 Examiner's conclusion of obviousness as to claim 14 in the Appeal Brief.
21 Rather, the Appellants argue that Smrcka does not cure the deficiencies of
22 Kolosov, O'Rear, and Tolvanen as to claim 1. Appeal Brief at 29-30.

23 For the reasons set forth above, the teachings of Kolosov render
24 obvious the subject matter of claim 1. Therefore, there are no deficiencies
25 that Smrcka must cure.

26 7. Double patenting rejections

1 The Appellants do not challenge the double patenting rejections on
2 appeal. Rather, the Appellants state, “Upon resolution of all outstanding
3 issues remaining in this application, Appellants will submit a Terminal
4 Disclaimer to obviate the provisional rejections.” Appeal Brief at 31.

5 F. OTHER ISSUES

6 Based on the record before us, we find that the definition of “additive”
7 relied on by the Examiner and the teachings in O’Rear (paras. [0002] and
8 [0046]) suggest that lubricants comprising a minor amount of an additive
9 would have been known to one of ordinary skill in the art at the time the
10 Appellants’ application was filed. In the event of further prosecution, the
11 Examiner should consider the obviousness of a lubricating oil composition
12 comprising a major amount of at least one base oil of lubricating viscosity
13 and a minor amount of at least one lubricating oil additive as recited in
14 claim 39. Nothing in our opinion should be construed as precluding a
15 rejection under 35 U.S.C. § 103(a) of claims 39-42. In fact, it would appear
16 that such a rejection would be entirely appropriate.

17 G. CONCLUSIONS OF LAW

18 The Appellants have sustained their burden of showing that the
19 Examiner erred in rejecting claims 39-42 under 35 U.S.C. § 102(e) as being
20 anticipated by Kolosov.

21 The Appellants have not sustained their burden of showing that the
22 Examiner erred in rejecting claims 1-9, 18-29, 38, and 43 under 35 U.S.C. §
23 103(a) as being unpatentable over the combination of Kolosov, O’Rear, and
24 Tolvanen.

25 The Appellants have not sustained their burden of showing that the
26 Examiner erred in rejecting claims 10-13, 30-33, 44, and 45 under 35 U.S.C.

1 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
2 Tolvanen, and Garr.

3 The Appellants have not sustained their burden of showing that the
4 Examiner erred in rejecting claims 14-17 and 34-37 under 35 U.S.C. §
5 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
6 Tolvanen, and Smrcka.

7 The Appellants have not sustained their burden of showing that the
8 Examiner erred in provisionally rejecting claims 1-3, 6, 7, 9, 11, 12, 14, 15,
9 19, 20, 22, 23, 26, 27, 29, 31, 32, 34, 35, and 38-45 under the judicially
10 created doctrine of obviousness-type double patenting as being unpatentable
11 over claims 1, 3-9, 15-19, and 24-30 of copending Application 10/779,422.

12 The Appellants have not sustained their burden of showing that the
13 Examiner erred in provisionally rejecting claims 1, 2, 13-18, 20-22, and 33-
14 38 under the judicially created doctrine of obviousness-type double
15 patenting as being unpatentable over claims 20 and 22-30 of copending
16 Application 10/699,529.

17 The Appellants have not sustained their burden of showing that the
18 Examiner erred in provisionally rejecting claims 1, 2, 13-17, 20, 22, 34-37,
19 39-42, 44, and 45 under the judicially created doctrine of obviousness-type
20 double patenting as being unpatentable over claims 1, 3, 10-18, 22, and 23 of
21 copending Application 10/699,508.

22 The Appellants have not sustained their burden of showing that the
23 Examiner erred in provisionally rejecting claims 1, 2, 20, 22, 39, 41, and 44
24 under the judicially created doctrine of obviousness-type double patenting as
25 being unpatentable over claims 1, 13, 19-22, and 33-35 of copending
26 Application 10/699,509.

1 H. DECISION

2 The rejection of 39-42 under 35 U.S.C. § 102(e) as being anticipated
3 by Kolosov is reversed.

4 The rejection of claims 1-9, 18-29, 38, and 43 under 35 U.S.C.
5 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
6 and Tolvanen is affirmed.

7 The rejection of claims 10-13, 30-33, 44, and 45 under 35 U.S.C.
8 § 103(a) as being unpatentable over the combination of Kolosov, O'Rear,
9 Tolvanen, and Garr is affirmed.

10 The rejection of claims 14-17 and 34-37 under 35 U.S.C. § 103(a) as
11 being unpatentable over the combination of Kolosov, O'Rear, Tolvanen, and
12 Smrcka is affirmed.

13 The provisional rejection of claims 1-3, 6, 7, 9, 11, 12, 14, 15, 19, 20,
14 22, 23, 26, 27, 29, 31, 32, 34, 35, and 38-45 under the judicially created
15 doctrine of obviousness-type double patenting as being unpatentable over
16 claims 1, 3-9, 15-19, and 24-30 of copending Application 10/779,422 is
17 affirmed.

18 The provisional rejection of claims 1, 2, 13-18, 20-22, and 33-38
19 under the judicially created doctrine of obviousness-type double patenting as
20 being unpatentable over claims 20 and 22-30 of copending Application
21 10/699,529 is affirmed.

22 The provisional rejection of claims 1, 2, 13-17, 20, 22, 34-37, 39-42,
23 44, and 45 under the judicially created doctrine of obviousness-type double
24 patenting as being unpatentable over claims 1, 3, 10-18, 22, and 23 of
25 copending Application 10/699,508 is affirmed.

